Installing Google Earth Enterprise

This guide describes the system requirements for Google Earth Enterprise Server and Google Earth Enterprise Fusion Pro and provides the preparation steps and installation instructions for those two products.

Google Earth Enterprise software is available electronically for download or on DVD (additional order). The GEE Fusion Pro and Server software are packaged individually for distribution.

The **Google Earth Enterprise Fusion Pro** software package contains:

- Google Earth Enterprise Fusion software
- Google Earth Enterprise Fusion tutorial files
- Google Earth Enterprise documentation
- Example data files
- Configuration files

The **Google Earth Enterprise Server** software package contains:

- Google Earth Enterprise Server software
- Google Earth Enterprise documentation

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System Requirements

Hardware

Minimum requirements are:

- Minimum 2 dual-core Intel or AMD CPUs.
- Minimum 4GB RAM; 8 GB RAM per core recommended.
- The amount of storage space needed to build and host customized 3D and 2D globes will depend on how much source data is imported, scaling from several gigabytes to many terabytes. The main driver for disk space is the amount of imagery that is added to the globe. A simple proof of concept server can be installed on less than 10GB of storage space. The recommended minimum for a production globe is 500GB of space.

  The installed software itself requires 3.0GB total (1.5GB each for Server and Fusion).
- DVD drive.
- A graphics card with at least 64MB video RAM (NVIDIA GeForce4 or higher preferred - for Google Earth Enterprise Fusion GUI only). You can install this graphics card in a different workstation that accesses Google Earth Enterprise Fusion.

Operating System

Google Earth Enterprise is supported on the **64-bit versions** of the following operating systems:

- SUSE Linux Enterprise Server versions 10 and 11.1, including the most recent security patches
- OpenSuSE version 11.1
- Red Hat Enterprise Linux versions 4 and 5.5, including the most recent security patches
- CentOS 5.5
- Ubuntu 10.04

Customers with previous patch releases of these operating systems are advised to update to the latest patches. Google will continue to test the Google Earth Enterprise software with the latest patch releases as those releases become available. Please contact the Google Enterprise Support team for the most current Linux distribution supported with your version of Google Earth Enterprise.

Software

- Oracle (Sun) Java Runtime Environment (JRE) or Java Development Kit (JDK), current version 1.6.0.x
- Python (the latest version available for your platform)
- X11 libraries, including Mesa (for disconnected production servers only)

Network

You must fully configure the hostname, DNS, and IP address of each destination server prior to installing Google Earth Enterprise, and you must not change these settings. The hostname **must** be the full DNS name of your destination server; for example, `myserver.mydomainname.com`. Ensure that the DNS entry for your server matches its hostname exactly.

You can verify the hostname of your workstation by entering `hostname` at a shell prompt, and you can verify the network connection by using the `ping` command to reach other hosts in the same network.

Configuration for searchable databases

When you publish a searchable database to a virtual server with a relative URL (such as `/default_ge` or `/default_map`), Google Earth Enterprise Fusion requests the hostname from the server to which you are publishing and then writes that hostname out to the search section of DBRoot. When Google Earth EC or Google Maps configures its search tabs, it uses the hostname specified in the search section of DBRoot and constructs all search requests using that hostname. If Google Earth EC or Google Maps is unable to resolve the fully qualified hostname for the search server, the search fails.

Therefore, if you plan to publish searchable databases, you must use one of the following configurations for your servers:

- Create a name-based virtual server. (See Configuring Virtual Servers in the **Administration Guide** for details.)
- If you have a small number of Google Earth EC and Google Maps users accessing your searchable database, you can add an entry to each user's `hosts` file to resolve the URL/hostname you provide to the IP address of the actual server.
- Ensure that the DNS entry for your server matches its hostname exactly.

Supported Configurations

Google Earth Enterprise products are tested and developed per the hardware and software requirements listed above. The products are intended to be installed according to the processes described in this documentation.

When installing Google Earth Enterprise in an unsupported environment, there are risks that the products may not operate as intended. If Technical Support assistance is required, reasonable effort will be extended to troubleshoot the issue. If an unsupported environmental factor is determined to be the cause, you may be asked to install the products in a supported environment for further testing.

Some factors that could affect your installation and deployment are:

- Installations on unsupported operating systems.
- Improperly configured DNS.
- 3rd party or non-default permissions or security measures (no root access, sudo blockers, etc.).
- Complex proxy configurations that prevent the network communications from operating as intended.

We encourage you to contact Support or a Google Partner if you have further questions regarding your operating environment.

Important System Security Information

Google strongly recommends users who wish to host 3D and 2D globes online with Google Earth Enterprise should follow industry standard security practices and review for their systems and networks before enabling access. Although Google takes every precaution to secure the information, there is always the risk of unauthorized access outside of a closed or protected network.

For more information on setting up authentication, please refer to the Administration Guide.

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Before Installing

Before you install the Google Earth Enterprise software, you must configure your hardware, network, and Google Earth Enterprise users. You must also think about where you want to store your Google Earth Enterprise Fusion data and where you want to publish your Google Earth Enterprise Fusion databases. The installation procedure prompts you for this information, but you should consider these decisions in advance, before you begin the installation procedure.

The following sections provide information about what the Google Earth Enterprise software requires in each of these areas.

Be sure to complete all of the tasks described in these sections before installing the Google Earth Enterprise software.

Configuring Your Host Volumes

Google Earth Enterprise Fusion data (resources, projects, and databases) require a local name and network path to resolve the locations of both source files and related Google Earth Enterprise Fusion data. For that reason, you cannot change the network naming convention you adopt for host volumes without invalidating Google Earth Enterprise Fusion data.

On a single workstation setup (non-network based), the network path and local path for Google Earth Enterprise Fusion data are identical. However, because migration to a network-based configuration is inevitable, Google recommends that you use a network naming convention for any new volume hosting Google Earth Enterprise Fusion data or source data, whether it is part of a network initially or not.

Because Linux systems frequently use either `/vol(*)` or `/data(*)` as the local volume definition on a new system, using this convention for the initial Google Earth Enterprise Fusion data location can cause name conflicts if you later switch from a single workstation to a network-based configuration. For example, if you initially define `/vol1/assets` as the network location for a Google Earth Enterprise Fusion *asset root*, and you later add another workstation that has a local volume called `/vol1`, that workstation cannot reference `/vol1/assets` through the network because of the name conflict with its local volume definition. (See "Planning the Location of Your Asset Root" for more information about the asset root.)

You can work around this problem by adopting a unique naming convention for all volumes on your network (such as /`vol1`... /`vol`*n*). However, Google suggests that you use /`gevol` as an alternative volume naming convention, because it is unlikely to conflict with standard Linux volume definitions. The following diagram illustrates this point.

Note: On a single workstation that does not mount /`gevol` on a network, /`gevol` is also required as a local volume definition.

Configuring Multiple Storage Devices

Google Earth Enterprise Server and the Google Earth Enterprise Fusion asset root, source volumes, and publish root require large amounts of disk storage space. Google Earth Enterprise Fusion requires about three times as much storage space as Google Earth Enterprise Server. The storage space can be either in the form of internal disks, directly attached storage devices, network-attached storage (NAS) devices, or storage area network (SAN) devices. Typically, these devices are configured into redundant arrays of independent disks (RAIDs) and presented to the operating system as volumes. Volumes can be several hundred gigabytes up to tens of terrabytes.

The difference between configuring a workstation with a single hard disk and a workstation with multiple volumes relates to the mount point definitions for the source and asset volumes.When

configuring a Linux workstation, Google strongly recommends that you use the following mount point naming conventions:

- **Single volume**

  Mount the single drive to slash (/). All data (`/gevol/assets`, `/gevol/src`, and `/gevol/published_dbs`) resides on that drive with the local path defined using the `/gevol` naming convention.

- **Two volumes - a small system volume and a larger data volume**

  Mount the small system drive to slash (`/`). Mount the larger data drive to `/gevol/`. Source and asset data volumes can then be defined as `/gevol/assets` and `/gevol/src`.

- **Three volumes - a small system volume and two larger data volumes**

  Mount the small system drive to slash (`/`). Mount the first large data drive to `/gevol/assets`. Mount the second large data drive to `/gevol/src`.

- **More than three volumes**

  There are several strategies for storing very large data sets. Google Earth Enterprise Fusion can read from and write to multiple volumes. Consult your Google Earth Enterprise sales engineer to determine the best way to configure your storage needs, if your requirements exceed the capacity of three volumes.

It is also important to keep internal and external storage devices separated so that if your internal server goes down, it does not affect your ability to serve published data to external clients. Likewise, if your external server goes down, you can replace it and publish from the internal storage device. In addition (and perhaps more important), keeping your internal and external storage devices separate reduces the possibility of performance problems that could occur if you are building a large data set or a client requests a time-consuming search.

Planning the Location of Your Asset Root

During the Google Earth Enterprise Fusion installation procedure, you must specify a location for your *asset root*. The asset root is the main location where all of the assets (resources, map layers, projects, and databases) are stored that are created with Google Earth Enterprise Fusion. (Refer to the Reference Guide for more information about the asset root.)

The asset root must be located on a single volume. It cannot be split across multiple volumes. Therefore, it is important to think ahead and allocate as much storage space as possible for the asset root.

Unless you have an established partitioning scheme for all of your storage devices, Google recommends that you accept the default partitioning scheme presented to you while installing Linux. That scheme gives you a reasonable amount of space in `/opt` for Google Earth Enterprise and other system software, a small amount of space for `/home`, and the remaining space on your storage device for the asset root.

Google also recommends that you accept the default volume designation for your asset root during installation (`/gevol/assets`), unless that name conflicts with your established naming conventions.

Note: Google recommends that you dedicate a network-attached storage device (NAS) for your asset root.

Planning the Location of Your Publish Root

During the Google Earth Enterprise Server installation procedure, you must specify a volume for the *publish root*. The publish root is the directory in which all of your published databases are stored.

If you specify the same volume as the asset root, when you publish a database, Google Earth Enterprise Fusion registers the database on the specified volume and sets symbolic links to the database files. If you specify a different volume than the asset root, when you publish a database, Google Earth Enterprise Fusion registers the database on the specified volume and then copies all of the database files to the designated volume.

For example, if you specify `/gevol/assets` for your asset root and `/gevol/published_dbs` for your publish root, when you publish a database, Google Earth Enterprise Fusion registers the database on `gevol` and sets hard links to the database files; no copying is necessary.

However, if you specify `/gevol/assets` for your asset root and `/data1/published_dbs` for your publish root, when you publish a database, Google Earth Enterprise Fusion copies all of the database files from `/gevol/assets` to `/data1/published_dbs` (unless you allow symbolic links during installation). Copying takes more time as well as extra disk space.

Setting Up Google Earth Enterprise Users

The Google Earth Enterprise installer automatically configures certain system users to perform background tasks at the system level. If you accept the default user names and allow the installer to create those users on your local workstation, you are implementing local authentication only. Local authentication is designed for standalone workstations only.

If you are using Google Earth Enterprise over a network with at least two workstations, storage devices, and/or servers, Google strongly recommends that you use a centralized network authentication system, such as LDAP, NIS, or one of the many commercially available systems available.

If you use a centralized network authentication system, you must add the following users to your authentication system's user list:

- **gefusionuser**
- **geapacheuser**
- **getomcatuser**
- **gepguser**

The primary group for all of these users is **gegroup**.

The installer prompts you to assign a user ID (UID) for each of these users. You can accept the installer-assigned UID or specify a unique UID for each user. If you are using a standalone workstation, you can simply accept the installer-assigned UIDs. However, if you are in a multi-user environment in which multiple workstations share a common asset root on a NAS/SAN, **these users must have the same UID on all devices, so you must assign them explicitly in both your network authentication system and in Google Earth Enterprise**.

To determine the UIDs to assign, examine the UIDs already used on each device on which you plan to install Google Earth Enterprise software, and determine four UIDs that are available on all devices. Then, when the installer prompts you for the UIDs, assign the same UIDs for these users in Google Earth Enterprise as on all network devices.

Note: You must assign these users on the NAS, as well as the workstations and servers.

Be sure to configure each Google Earth Enterprise workstation, storage device, and Google Earth Enterprise Server to use your network authentication system. Refer to the documentation for your network authentication system for further information. In addition, refer to Configuring Publishing Authentication in the **Administration Guide** for more configuration options.

Customizing Google Earth Enterprise User Names

You can use customized user names, user IDs, and group names. During installation, you are asked if you want to change the default user and group names. If you choose **yes**, you are prompted to provide a user and group name of your choice.

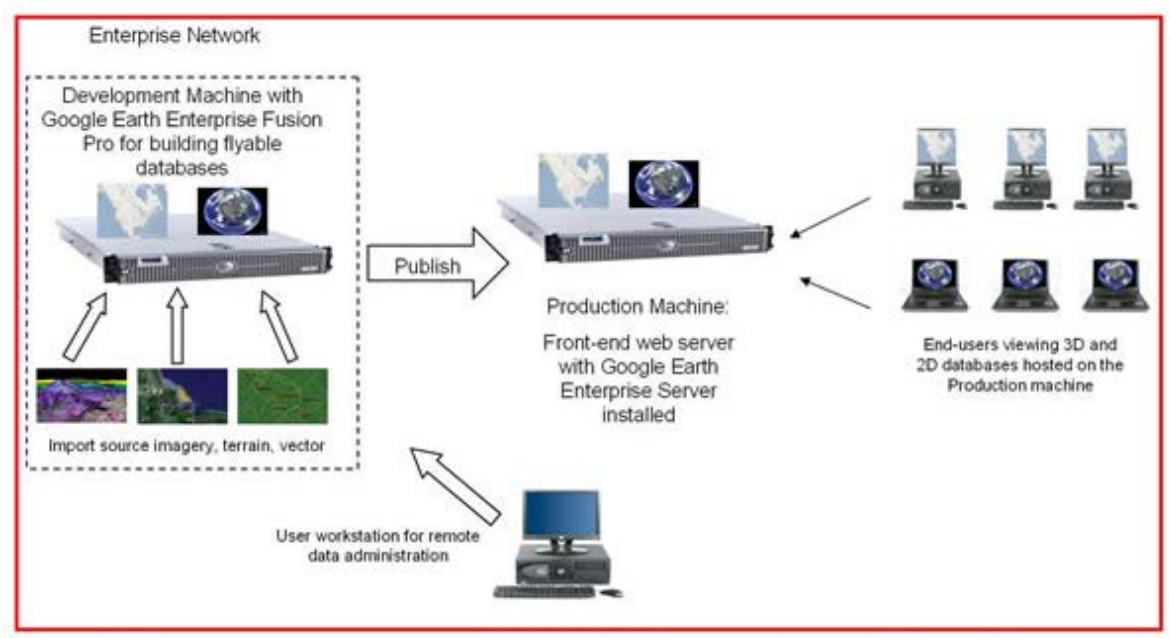
Deciding Which Products To Install

You do not need to install all products on all devices. To determine which products to install, follow these general guidelines:

Install Google Earth Enterprise Fusion and Google Earth Enterprise Server on the server machine selected to import your source GIS data and create flyable 3D and 2D databases. A system in this configuration is typically called the "development machine" since its primary task is to build flyable databases and only a small number of users will view the flyable data for quality assurance testing.

- Install the Google Earth Enterprise Fusion tutorial files on the "development machine" for users who are new to Google Earth Enterprise Fusion or are new to version 4.2. (See Configuring Tutorial Work Space in the **Administration Guide** for additional important information about configuring tutorial work space for users.)
- Install only the Google Earth Enterprise Server software on the server machine selected to only host flyable 3D and 2D databases only. All authorized end-users will connect to this system -- typically referred to as the "production machine" -- to view the flyable databases. This machine must be accessible through the network from the development machine in order for database publishes. Users who will not have direct network access to their production machines, or users who plan to update remote systems with external hard drives, must also install the "Disconnected Publishing Add-on" for additional tools.

The following diagram shows a sample system configuration.



In this example, there are two server class machines assigned to data building and data hosting tasks, plus one workstation to be used for data management.

A GIS specialist uses the workstation to remotely log in to the development machine with Google Earth Enterprise Fusion Pro installed to import source GIS data and output a flyable globe to publish for end users. Google Earth Enterprise Server software is also installed on the development machine so the GIS specialist may perform quality assurance tests on the data before publishing to the production machine.

Only Google Earth Enterprise Server is installed on the production machine which authorized end-users in the network may access with Google Earth Enterprise Client (EC) for 3D databases, or a compatible web browser for 2D databases.

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The GUI Installer

Overview

This section provides information about installing Google Earth Enterprise Fusion, Google Earth Enterprise Server, the Google Earth Enterprise Fusion tutorial files, and the additional files and features provided in the software package.

Both a graphical user interface (GUI) and a command-line installer are available for Google Earth Enterprise Server and Fusion. A silent installation option is also available if you want to install on multiple machines without user interaction. Use the command-line installer if you are installing on a server without an X11 server.

The GUI installers are recommended for most Google Earth Enterprise Fusion and Server installations. During installation, you are prompted and guided through the process automatically.

Before you Begin

The Google Earth Enterprise software is available in two formats: as a download from Google.com servers, or on physical media in the form of DVDs. The instructions below are the same for both formats, once the following setup has been completed:

If you downloaded the software package

Unpack the archived installer(s) to a temporary directory:

```
tar -zxvf GEEFusion40.tar.gz -C /target/directory
tar -zxvf GEEServer40.tar.gz -C /target/directory
```

If you ordered the DVD

Insert the distribution DVD, and mount the DVD drive.

Installing Google Earth Enterprise Fusion

1. Open a terminal window on your Linux workstation.
2. Log in as `root`.
3. Stop the Google Earth Enterprise Fusion system manager and Google Earth Enterprise Server, if you have a previous version installed and they are running:

   ```
   /etc/init.d/gefusion stop
   /etc/init.d/geserver stop
   ```

   Note: If you try to run the Google Earth Enterprise installer using a secure shell (`ssh -XY user@machine`), you might get the following error:

   ```
   X11 connection rejected because of wrong authentication.
   X connection to localhost:10.0 broken (explicit kill or server shutdown)
   ```

   If you do, set the following variable to point to the X11 authorization file:

```
export XAUTHORITY=~/.Xauthority
```

4. Navigate to your DVD directory, or the directory to which you extracted the Google Earth Enterprise files, and run the Google Earth Fusion installer:

   ```
   cd /media/cdrom
   ./InstallGEFusionGUI.sh
   ```

   If your DVD automounted without exec privileges, you might need to run `sh ./InstallGEFusionGUI.sh` instead.

   The installer starts and the following window appears:

5. Click **Next** to continue. You can click **Cancel** to exit the installation process or **Previous** to return to the previous screen at any time. The License Agreement appears:

6. Accept the License Agreement and click **Next**. The **Choose Products** screen appears:

7. Choose the installlation type or click **Next** to accept the default (**Typical**). If the installer determines it needs to upgrade any product you are installing, it prompts you to confirm the upgrade.
    - **Typical** installation includes Google Earth Enterprise Fusion and the Tutorial.
    - **Minimal** installation includes only Google Earth Enterprise Fusion.
    - **Custom** installation allows you to customize the components you install.
8. The installer displays the default location for the backup files: `/var/opt/google/fusion-backups/...`
   Click **Next** to continue.
9. You are prompted to create the user and group for Google Earth Enterprise Fusion. Click **Next** to accept the default, or enter your customized names. The **Pre-Installation Summary** appears:

10. Click **Install** to continue. The installer prompts you to designate your asset root and source volumes. A source volume is a directory that contains your source data files.

11. Click **Next** to accept the default (`/gevol/assets and /gevol/src`), or enter the paths you want to set for your asset root and source volume. (See Before you Install for more information.)
12. Click **Done**.
13. Log out of the system, and log back in (*not* as root).
14. From the command line, launch Google Earth Enterprise Fusion:

```
fusion
```

Installing Google Earth Enterprise Server

1. Open a terminal window on your Linux workstation.
2. Log in as `root`.
3. Stop the Google Earth Enterprise Fusion system manager and Google Earth Enterprise Server, if you have a previous version installed and they are running:

```
/etc/init.d/gefusion stop
/etc/init.d/geserver stop
```

4. Navigate to your DVD directory, or the directory to which you extracted the Google Earth Enterprise files, and run the Google Earth Server installer:

```
./InstallGEServerGUI.sh
```

If your DVD automounted without exec privileges, you might need to run `sh ./InstallGEServerGUI.sh` instead.

The installation script starts running and the following window appears:

5. Click **Next** to continue. You can click **Cancel** to exit the installation process or **Previous** to return to the previous screen at any time. The License Agreement appears:

6. Accept the License Agreement and click **Next**. The Choose products screens appears:

7. Choose the installlation type click **Next** to accept the default (**Typical**). If the installer determines it needs to upgrade any product you are installing, it prompts you to confirm the upgrade.
   - **Typical** installation includes Google Earth Enterprise Server and Google Earth Enterprise Places Database.
   - **Minimal** installation includes only Google Earth Enterprise Server.
   - **Custom** installation allows you to customize the components you install.
8. The installer displays the default location for the backup files: `/var/opt/google/fusion-backups/...`
   Click **Next** to continue. The **User and Group Names** screen appears:

9. If you want to customize user or group names or IDs, select **Customize**. Otherwise, select **Default** and click **Next**. The **Publish Root Location** screen appears:

10. The installer prompts you to designate your publish root. (See Before you Install for more information.)

    The Pre-Installation summary appears.

11. Click **Install**. When the installer is finished, you can choose to start the Google Earth Server services.
12. Click **Done** to complete the installation.

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The Command Line Installer

Overview

Both a graphical user interface (GUI) and a command line installer are available for Google Earth Enterprise Server and Fusion. A silent installation option is also available if you want to install on multiple machines without user interaction. Use the command-line installer if you are installing on a server without an X11 server.

The command line installers are available and should be used if you do not have an X11 server. During installation, you are prompted for replies and guided through the process automatically.

Before you Begin

The Google Earth Enterprise software is available in two formats: as a download from Google.com servers, or on physical media in the form of DVDs. The instructions below are the same for both formats, once the following setup has been completed:

If you downloaded the software package

Unpack the archived installer(s) to a temporary directory:

```
tar -zxvf GEEFusion40.tar.gz -C /target/directory
tar -zxvf GEEServer40.tar.gz -C /target/directory
```

If you ordered the DVD

Insert the distribution DVD, and mount the DVD drive.

Installing Google Earth Enterprise Fusion

1. Open a terminal window on your Linux workstation.
2. Log in as `root`.
3. Stop the Google Earth Enterprise Fusion system manager and Google Earth Enterprise Server, if you have a previous version installed and they are running:

   ```
   /etc/init.d/gefusion stop
   /etc/init.d/geserver stop
   ```

4. Navigate to your DVD directory, or the directory to which you extracted the Google Earth Enterprise files, and run the Google Earth Fusion installer:

   ```
   ./InstallGEFusion.sh
   ```

   If your DVD automounted without exec privileges, you might need to run `sh ./InstallGEFusion.sh` instead.

   The installation script starts running.

5. Press **Enter** to continue. You can type **Quit** to exit the installation process or **Back** to return

to the previous screen at any time.

6. Press **Enter** to scroll through the Google License Agreement. Press **Y** to accept the terms.
7. Enter the applicable number for **Typical**, **Minimal**, or **Custom** installation or press **Enter** to accept the default (**Typical**). If the installer determines it needs to upgrade any product you are installing, it prompts you to confirm the upgrade.
   - **Typical** installation includes Google Earth Enterprise Fusion and the Tutorial.
   - **Minimal** installation includes only Google Earth Enterprise Fusion.
   - **Custom** installation allows you to customize the components you install.
8. The installer displays the default location for the backup files: `/var/opt/google/install-backups/...`
   Press **Enter** to continue.
9. The installer prompts you to create the user and group for Google Earth Enterprise Fusion. Press **Enter** to accept the default, or enter your customized names.
10. The **Pre-Installation Summary** appears. Press **Enter** to continue.
11. The installer prompts you to designate your asset root. (See Before you Install for more information.) Press **Enter** to accept the default (`/gevol/assets`), or enter the path you want to set for your asset root.
12. The installer prompts you to designate a source volume. A source volume is a directory that contains your source data files (or subdirectories of your source data files). You can add more source volumes later. (See also Configuring Your Data Locations and Configuring the Tutorial Asset Root and Source Volume in the **Administration Guide**.)

    Press **Enter** to accept the default (`/gevol/src`), or enter the path you want to set for your source volume. If the source volume does not exist, the installer asks if it should create it.
13. You can choose to start the Google Earth Enterprise Fusion Services. To start the services at a later time:

    ```
    /etc/init.d/gefusion start
    ```
14. Press **Enter** to exit.
15. Log out of the system, and log back in (*not* as root).
16. Launch Google Earth Enterprise Fusion:

    ```
    fusion
    ```

Installing Google Earth Enterprise Server

1. Open a terminal window on your Linux workstation.
2. Log in as `root`.
3. Stop the Google Earth Enterprise Fusion system manager and Google Earth Enterprise Server, if you have a previous version installed and they are running:

   ```
   /etc/init.d/gefusion stop
   /etc/init.d/geserver stop
   ```
4. Navigate to your DVD directory, or the directory to which you extracted the Google Earth Enterprise files, and run the Google Earth Server installer:

   ```
   ./InstallGEServer.sh
   ```

   If your DVD automounted without exec privileges, enter `sh ./InstallGEServer.sh` instead.

   The installation script starts running.
5. Press **Enter** to continue. You can type **Quit** to exit the installation process or **Back** to return to the previous screen at any time.
6. Press **Enter** to scroll through the Google License Agreement. Type **Y** to accept the terms.
7. Enter the applicable number for **Typical**, **Minimal**, or **Custom** installation, or press **Enter** to accept the default (**Typical**). If the installer determines it needs to upgrade any product you are installing, it prompts you to confirm the upgrade.

- **Typical** installation includes Google Earth Enterprise Fusion and the Tutorial.
- **Minimal** installation includes only Google Earth Enterprise Fusion.
- **Custom** installation allows you to customize the components you install.

8. The installer prompts you to create the user and group for Google Earth Enterprise Server. Press **Enter** to accept the default or enter your customized names.
9. The installer prompts you to designate your publish root. Press **Enter** to accept the default (`/gevol/published_dbs/`), or enter the path you want to set for your publish root.
10. The **Pre-Installation Summary** appears. Press **Enter** to continue.
11. You can choose to start the Google Earth Enterprise Server services. To start them later, from the command line:

```
/etc/init.d/gefusion start
/etc/init.d/geserver start
```

Using the Silent Installer

You can use the silent installation feature to install Google Earth Enterprise Fusion and Google Earth Enterprise Server while unattended. This allows for automatic updates of the software as needed.

1. Log in as root.
2. Navigate to your DVD directory, or the directory to which you extracted the Google Earth Enterprise files, and run the Google Earth Fusion installer:

```
./InstallGEFusion.sh
```

3. Locate the `installer.properties` file in the directory containing the installer files (for example, `GEEFusion-4.2/installer`).
4. Move the `installer.properties` file to another location.
5. Run the Google Earth Server installer:

```
./InstallGEServer.sh
```

6. A new `installer.properties` file is created in the same location.
7. Run the Google Earth Fusion silent installer:

```
./InstallGEFusion.sh installer.properties
```

8. Run the Google Earth Server silent installer:

```
./InstallGEServer.sh installer.properties
```

   You can customize the following properties for the silent installation. Set value to `0` for the default, or `1` to customize the value:

```
#1.Creating gefusionuser user (0 for default, 1 for customizing users and
group)

#--------------------------
GEFUSION_SERVER_CUSTOMIZE=0

#2.Set the Asset Root Location
#--------------------------
ASSET_ROOT=/gevol/asset

#3.Set the Source Volume Location
#-----------------------------
SOURCE_VOLUME=/gevol/src

#4.Previous installation found
#----------------------------
PROMPT_USER_CHOSEN_OPTION=0

#5.Google Earth Fusion is running
#-----------------------------
PROMPT_USER_CHOSEN_OPTION=0

#6.Creating gefusionuser user(0 for default, 1 for #customizing users)
#-------------------------
GEFUSION_SERVER_CUSTOMIZE=1
```

```
#7.Get User Name for gefusionuser
#-------------
GEFUSION_USER_NAME=gefusionuser1
```

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Verifying and Troubleshooting an Installation

Verifying That the System Manager Is Running

Because a properly running system manager is critical to using Google Earth Enterprise Fusion, as well as for converting your source data to Google Earth Enterprise Fusion assets, verify that the system manager is running after the initial installation of Google Earth Enterprise Fusion and whenever you encounter problems building assets.

To verify that the system manager is running, enter the following command at a shell prompt:

```
getop
```

A list of running processes appears. Two processes appear on the list:

- `gesystemmanager`

  This process is necessary to configure or build resources, projects, and databases with Google Earth Enterprise Fusion. If this process appears on the list, Google Earth Enterprise Fusion is running properly.

  If you do not see this process on the list, follow the troubleshooting suggestions in the Troubleshooting section to correct it.

- `geresourceprovider`

  This process manages the workstation resources on the behalf of the system manager. It also monitors free disk space on the volumes for any connected workstations.

  If you see a `connection refused` message, see the Troubleshooting section.

Troubleshooting a Failed System Manager

If the Google Earth Enterprise Fusion system manager fails to run, you can try stopping and restarting the it, which resolves most minor problems.

Restarting the system manager

1. Log in as root.
2. Stop the system manager:

   ```
   /etc/init.d/gefusion stop
   ```

3. Start the system manager:

   ```
   /etc/init.d/gefusion start
   ```

If you are still having problems starting the system manager after stopping and restarting the system manager, you can view the log file for the system manager to see what errors have been reported. The log file is located in:

```
/var/opt/google/log/gesystemmanager.log
```

Any errors are listed after the **Started** notice, which appears in the log for each time you started the system manager.

Note: If you see a `Connection Refused` message when running the `getop` command, but do not see any error messages in the log file, ensure that the log directory is writable by Google Earth

Enterprise Fusion users.

Likewise, if Google Earth Enterprise Server fails to run, you can try stopping and restarting it, which resolves most problems.

Restarting the server

1. Log in as root.
2. Stop and restart the server.

```
/etc/init.d/geserver restart
```

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Uninstalling the Google Earth Enterprise Software

This section provides instructions for uninstalling all or some of the software provided in the Google Earth Enterprise 4.2 software package. For this procedure, you use the same installer you used to install the software.

Note: As with installation, you can use either the command-line uninstaller or the graphical user interface (GUI) uninstaller to remove the Google Earth Enterprise Fusion and Server products.

To uninstall all or part of the Google Earth Enterprise software:

1. Open a terminal window on your Linux workstation.
2. Log in as `root`.
3. Stop the Google Earth Enterprise Fusion system manager and Google Earth Enterprise Server, if you have a previous version installed and they are running:

   ```
   /etc/init.d/gefusion stop
   /etc/init.d/geserver stop
   ```

4. Navigate to the `/opt/install/GoogleEarthFusion_Uninstaller` or `/opt/install/GoogleEarthServer_Uninstaller/` directory.

   To uninstall using the Fusion DVD, insert the DVD and mount the drive. The uninstallers listed below are available at the top level of the DVD media.

5. To uninstall Fusion Pro:

   ```
   ./Uninstall_Google_Earth_Enterprise_Fusion_GUI.sh // GUI uninstaller
   ./Uninstall_Google_Earth_Enterprise_Fusion.sh // Command line uninstaller
   ```

6. To uninstall Server:

   ```
   ./Uninstall_Google_Earth_Enterprise_Server_GUI.sh // GUI uninstaller
   ./Uninstall_Google_Earth_Enterprise_Server.sh // Command line uninstaller
   ```

   The uninstall script starts. Follow the on-screen instructions to remove the Google Earth Enterprise Fusion or Server products.

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